CLMPTO 11/03/04 TMC

> A method for encoding data for transmission in a communication system comprising the steps of:

> partitioning a set of orthogonal codes into a first subset with a first number of members;

partitioning a first plurality of data bits associated with a first transmission into first packets;

encoding the first plurality of data bits by assigning each first packet to a corresponding member of the first subset;

partitioning a set of orthogonal codes into a second subset with a second number of members, the second number of members being different than the first number of members;

partitioning a second plurality of data bits associated with a second transmission into second packets; and,

encoding the second plurality of data bits by assigning each second packet to a corresponding member of the second subset.

2. A method as defined in Claim 1, wherein the communication system comprises a CDMA communication system.

10097998.010EGE

10

:5

20

Best Available Copy

Application/Control Number: 10/037,982 Page 3

Art Unit: 3635

3. A method as defined in Claim 1, wherein the first plurality of data bits represents one or more of the group consisting of an audio signal, a video signal, and a data signal.

5

4. A method as defined in Claim 1, wherein the second plurality of data bits represents one or more of the group consisting of an audio signal, a video signal, and a data signal.

10

ACTUVESM.CACHOR

5. A method as defined in Claim 1, wherein the first plurality of data bits requires a lower power level than the second plurality of data bits and the first number of members is higher than the second number of members.

15

6. A method as defined in Claim 1, wherein the first plurality of data bits requires a higher data rate than the second plurality of data bits and the first number of members is higher than the second number of members.

20

7. A method as defined in Claim 1, wherein the first plurality of data bits requires a lower error rate than the second plurality of data bits and the first number of members is higher than the second number of members.

Application/Control Number: 10/037,982

Art Unit: 3635

8. A method for encoding data for transmission in a communication system comprising the steps of:

partitioning a set of orthogonal codes into a subset with at least three members;

partitioning a plurality of data bits into packets; and,
encoding the plurality of data bits by assigning each packet
to a corresponding member of the subset.

A method for increasing the terminal capacity of a
 CDMA communication system, comprising the steps of:

providing a set of orthogonal codes;

assigning at least three of the orthogonal codes in the set to a transmission; and,

decreasing power associated with the transmission thereby increasing the number of transmissions capable of utilizing the CDMA communication system at a given time.

10. A method for increasing the amount of data transmitted by a CDMA communication system, comprising the steps of:

providing a set of orthogonal codes;

assigning at least three of the orthogonal codes in the set to a transmission; and,

Art Unit: 3635

5 11. A method for decreasing the errors in a CDMA communication system, comprising the steps of:

providing a set of orthogonal codes;

assigning at least three of the orthogonal codes in the set to a transmission; and,

lengthening an error code associated with the transmission thereby decreasing the number of errors in the CDMA communication system.

12. An apparatus for encoding a signal associated with a communication in a wireless communication system comprising:

a memory retaining a set of orthogonal codes;

- a signal partitioner for partitioning the signal to be transmitted into packets having a number of members;
- a code partitioner for assigning a subset of the set of orthogonal codes to the communication, the subset including at least three codes; and

an encoder for mapping the packets of the signal to the subset of the orthogonal codes.

20

15

Page 6

Application/Control Number: 10/037,982

Art Unit: 3635

13. An apparatus as defined in Claim 12, further comprising a transmitter for transmitting the encoded signal.

- 14. An apparatus as defined in Claim 12, wherein the signal represents one or more of the group consisting of an audio signal, a video signal, and a data signal.
- 15. An apparatus as defined in Claim 12, wherein the communication system comprises a CDMA communication system.

10

15

20

- 16. An apparatus as defined in Claim 12, wherein the signal partitioner comprises software performed by a microprocessor.
- 17. An apparatus as defined in Claim 12, wherein the signal partitioner comprises an integrated circuit.
- 18. An apparatus as defined in Claim 12, wherein the code partitioner comprises software performed by a microprocessor.
- 19. An apparatus as defined in Claim 12, wherein the code partitioner comprises an integrated circuit.

Application/Control Number: 10/037,982

Art Unit: 3635

20. An apparatus as defined in Claim 12, wherein the encoder comprises software performed by a microprocessor.

- 21. An apparatus as defined in Claim 12, wherein the encoder comprises an integrated circuit.
 - --22. (New) A method as claimed in claim 8, further comprising:
 accessing a lookup table to obtain said orthogonal codes.
 - 23. (New) A method as claimed in claim 8, further comprising:

 providing said set of orthogonal codes from a base station to a terminal; and

 wherein said two partitioning steps and said encoding step are performed at said terminal.

Jan J

5

- 24. (New) A method as claimed in claim 8, wherein:
 said step of partitioning said set of orthogonal codes is performed at a base station;
 said base station provides said subset to a terminal; and
 said data bit partitioning step and said encoding step are performed at said terminal.
- 25. (New) A method as claimed in claim 9, wherein: said providing step includes accessing a lookup table to obtain said orthogonal codes.
- 26. (New) A method as claimed in claim 9, wherein:

Application/Control Number: 10/037,982

Art Unit: 3635

said providing step provides said set of orthogonal codes from a base station to a terminal; and

said assigning and power decreasing steps are performed at said terminal.

27. (New) A method as claimed in claim 9, wherein:
said providing and assigning steps are performed at a base station;
said base station provides said assigned orthogonal codes to a terminal; and
said power decreasing step is performed at said terminal.

BAY

28. (New) A method as claimed in claim 10, wherein: said providing step includes accessing a lookup table to obtain said orthogonal codes.

29. (New) A method as claimed in claim 10, wherein:

said providing step provides said set of orthogonal codes from a base station to a terminal; and

said assigning and increasing steps are performed at said terminal.

30. (New) A method as claimed in claim 10, wherein:
said providing and assigning steps are performed at a base station;
said base station provides said assigned orthogonal codes to a terminal; and said increasing step is performed at said terminal.

Page 9

Application/Control Number: 10/037,982

Art Unit: 3635

31. (New) A method as claimed in claim 11, wherein:
said providing step includes accessing a lookup table to obtain said orthogonal codes.

32. (New) A method as claimed in claim 11, wherein:
said providing step provides said set of orthogonal codes from a base station to a terminal; and

33. (New) A method as claimed in claim 11, wherein:
said providing and assigning steps are performed at a base station;
said base station provides said assigned orthogonal codes to a terminal; and
said lengthening step is performed at said terminal.

said assigning and lengthening steps are performed at said terminal.

34. (New) A method as claimed in claim 8, wherein: said plurality of members includes at least three members.

35. (New) A method as claimed in claim 9, wherein: said plurality includes at least three of the orthogonal codes.

36. (New) A method as claimed in claim 10, wherein: said plurality includes at least three of the orthogonal codes.

Blad